

### **REMARKS**

Claims 1-8, all the claims pending in the application, are rejected. Claims 1-8 are amended. Claims 9-13 are added.

#### **Support for Amendments**

Claim 1 is amended based on the illustrations in Figs. 1 and 10, and the disclosure at pages 22-26, with particular mention of the definition of substrate holding structure 9 as containing plural members 5, at page 22.

All of claims 2-8 now depend from claim 1, directly or indirectly, and have been amended for consistency and to better conform to US practice.

New claim 9 is based the description on page 22, line 18 to page 25, line 20.

New claim 10 is based on the description on page 24, lines 10 to 25 and Figs. 1 and 2.

New claim 11 is based on the description on page 22, line 18 to page 24, line 7.

New claim 12 is based on the description on page 25, lines 3 to 14.

New claim 13 is based on the description on page 22, line 18 to page 25, line 20.

### ***Claim Rejections - 35 USC § 102***

**Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sumio (JP 2001179163).** This rejection is traversed for at least the following reasons.

#### **Amended Claim 1**

Claim 1 has been amended to clarify that the apparatus according to the present invention, and with reference to Figs. 1 but without limitation thereto, is specified by (1) a chemical solution guide member (3) having a configuration which covers at least a side surface of a substrate (1) (which may be called “**Feature 1**”) and by (2) rotating the chemical solution guide member (3) together with substrate holding structure (9) (which may be called “**Feature 2**”). The advantages of Feature 1 are discussed in detail at page 24, line 18 to page 25, line 4 and the advantages of Feature 2 are discussed in detail at page 25, lines 5-10.

As explained at pages 22-24, the inner cover member 4 serves as a shield member and prevents the chemical solution from being supplied to the main surface of the substrate 1, except the unnecessary film portion. Further, the outer cover member 3, serving as a chemical solution

guide member, forms a flow path for the chemical solution by cooperating with the inner cover member 4. Finally, in order to sufficiently supply the chemical solution to the unnecessary film portion at the clearance and on the side surfaces of the substrate, the outer cover member 3 is provided so as to cover the inner cover member 4 and the side surfaces of the substrate 1.

The prior art does not teach the combination of Features 1 and Feature 2.

### **Sumio**

Sumio (JP2001179163) discloses a rotary coater and rotary coating method which comprises a rotary table 4, a rotary cap 20 which has a circular nozzle 37, a fixed base 50, and a fixed cup 51, as shown in Fig. 6. A space K3 illustrated in Fig. 6 is formed by a rear surface of a substrate 3, a wall surface of the fixed cup 51, and a structural element including the circular nozzle 37, and the fixed base 50, as mentioned in the paragraph 0041.

### **No Rotation of Cup Together With Table and Cap**

Although the fixed cup 51 may serve as a guide member and might cover a side surface of the substrate 3, it is to be noted that the fixed cup 51 is fixed to the fixed base 50. This shows that the fixed base 50 and the fixed cup 51 are ***not rotated together*** with the rotary table 4 and the rotary cap 20. In other words, the guide member which is named the fixed cup 51 in Sumio is never rotated together with the rotary table 4. Accordingly, Fig. 6 in Sumio does not show **Feature 2** according to the present invention.

Alternatively, no guide member is used in embodiments illustrated in Figs. 2 to 4. As a result, neither of the **Feature 1** and the **Feature 2** are disclosed in Figs. 2 to 4.

### **Different Mechanism for Removal of Solution**

Sumio teaches a rotary coater which has a ***discharge nozzle 28*** for discharging a processing solution onto an outer periphery of the substrate 3, a ***circular nozzle 24*** for discharging the processing solution onto an edge portion of a surface of the substrate 3, and a ***circular nozzle 37*** for discharging the processing solution onto an edge portion of a rear surface of the substrate 3. Thus, Sumio proposes removing an unnecessary film by the use of three nozzles. In other words, there is no teaching or even suggestion in Sumio about removing an unnecessary film from the side surface and the edge portion of the surface of the substrate by the use of a ***single nozzle*** or by causing a chemical solution to flow through a ***single flow path***.

**Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Orii et al (US 7,332, 055).** This rejection is traversed for at least the following reasons.

**Amended Claim 1**

Again, claim 1 has been amended to clarify that the apparatus according to the present invention is specified by **Feature 1** (a chemical solution guide member having a configuration which covers at least side surface of a substrate) and by **Feature 2** (rotating the chemical solution guide member together with a substrate holding member. The prior art does not teach the combination of Features 1 and Feature 2.

**Orii et al**

Orii et al reference (7332055B2) discloses a substrate processing apparatus which comprises a plurality of fluid suppliers 61, 62, and 63 (Fig. 5) for supplying different processing fluids. The processing apparatus illustrated in Fig. 7 has an outer chamber 43 which includes an inner cup 70 for accommodating a wafer W, a spin chuck 71 (as a holder) for holding the wafer W rotatably while directing the surface of the wafer W upward and a top plate 72 that moves up and down in relation to the upper face of the wafer W (the surface of the wafer W) (column 7, lines 31 to 32 and column 9, lines 25 to 30). Thus, the outer chamber 43 which is judged as a guide member by the Examiner is fixed and is never rotated.

From this fact, it is readily understood that the outer chamber 43 accommodates the wafer W and never serves as a rotatable guide member for guiding any chemical solution. At any rate, Orii et al never teach about rotating a chemical solution guide member. Thus, no teaching is made at all in Orii et al about either of **Feature 1** or **Feature 2**.

**Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kajino et al (US 6,793,769).** This rejection is traversed for at least the following reasons.

**Amended Claim 1**

Again, claim 1 has been amended to clarify that the apparatus according to the present invention is specified by **Feature 1** (a chemical solution guide member having a configuration which covers at least side surface of a substrate) and by **Feature 2** (rotating the chemical

solution guide member together with a substrate holding member. The prior art does not teach the combination of **Feature 1** and **Feature 2**.

**Kajino et al**

Kajino et al discloses a substrate processing apparatus 100 which processes a lower surface of a substrate W (column 5, lines 21 to 22). The substrate processing apparatus 100 comprises an atmosphere shielding part 60 which moves to approach to the substrate W and injects inert gas such as nitrogen gas (column 5, lines 26 to 29) and which serves as a support supporting the substrate from above (column 5, lines 32 to 33). In addition, a cylindrical guide member 30 is vertically movably provided above first and second discharge tanks 24a and 24b to enclose the spin chuck 1 and the atmosphere shielding part 60. Inclined portions 31a and 31b are formed on the guide member 30 and are concentrically arranged at a space from each other (column 6, lines 46 to 52).

However, there is no disclosure at all in Kajino et al about adjusting a clearance between the substrate W and the atmosphere shielding part 60 nor about rotating the guide member 30 for guiding any chemical solution.

Accordingly, there is no teaching or suggestion in Kajino et al about **Feature 1** or **Feature 2** of the present invention.

***Conclusion***

Applicants respectfully submit that none of the cited references disclose **Feature 1** or **Feature 2**.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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